2013 Benjamin

MENSCHEL

Fellowship

EXHIBITION

Morgan Lewis & Tyler Putnam | Clemens Poole | Ariana Revilla & Matthew Maiello | Catherine Sanso | Karl Schulz & Mark Ressl | Diana Yun

THE COOPER UNION FOR THE ADVANCEMENT OF SCIENCE AND ART

The Benjamin Menschel Fellowship Program to support creative inquiry was endowed by a grant given to The Cooper Union by the Horace W. Goldsmith Foundation in 1994 to support work in the fields of art, architecture, design, and engineering. This generous grant was intended to provide funding to exceptional students who propose scholarly, independent projects that will in some way provide a culmination to their educational endeavors at The Cooper Union. It is the hope of the Goldsmith Foundation that students designated as Menschel Fellows will be encouraged by their awards to complete bodies of artwork, develop scientific protocols, or otherwise further their intellectual investigations in a manner that will provide inspiration and illumination to the community as a whole.

Professor Sohnya Sayres, *Project Director*

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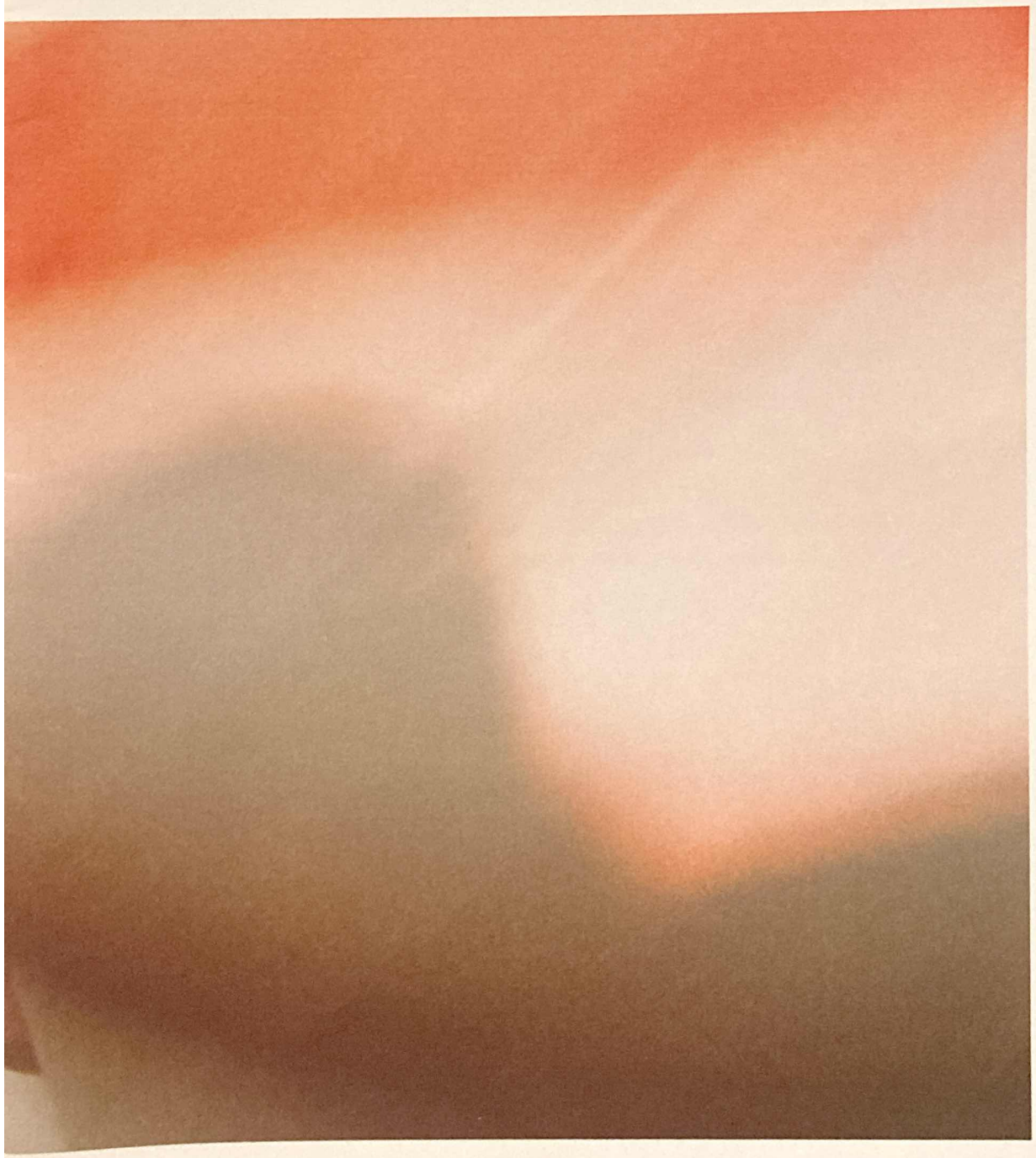


left: Clemens Poole

Cover image:
Ariana Revilla
and Matthew Maiello

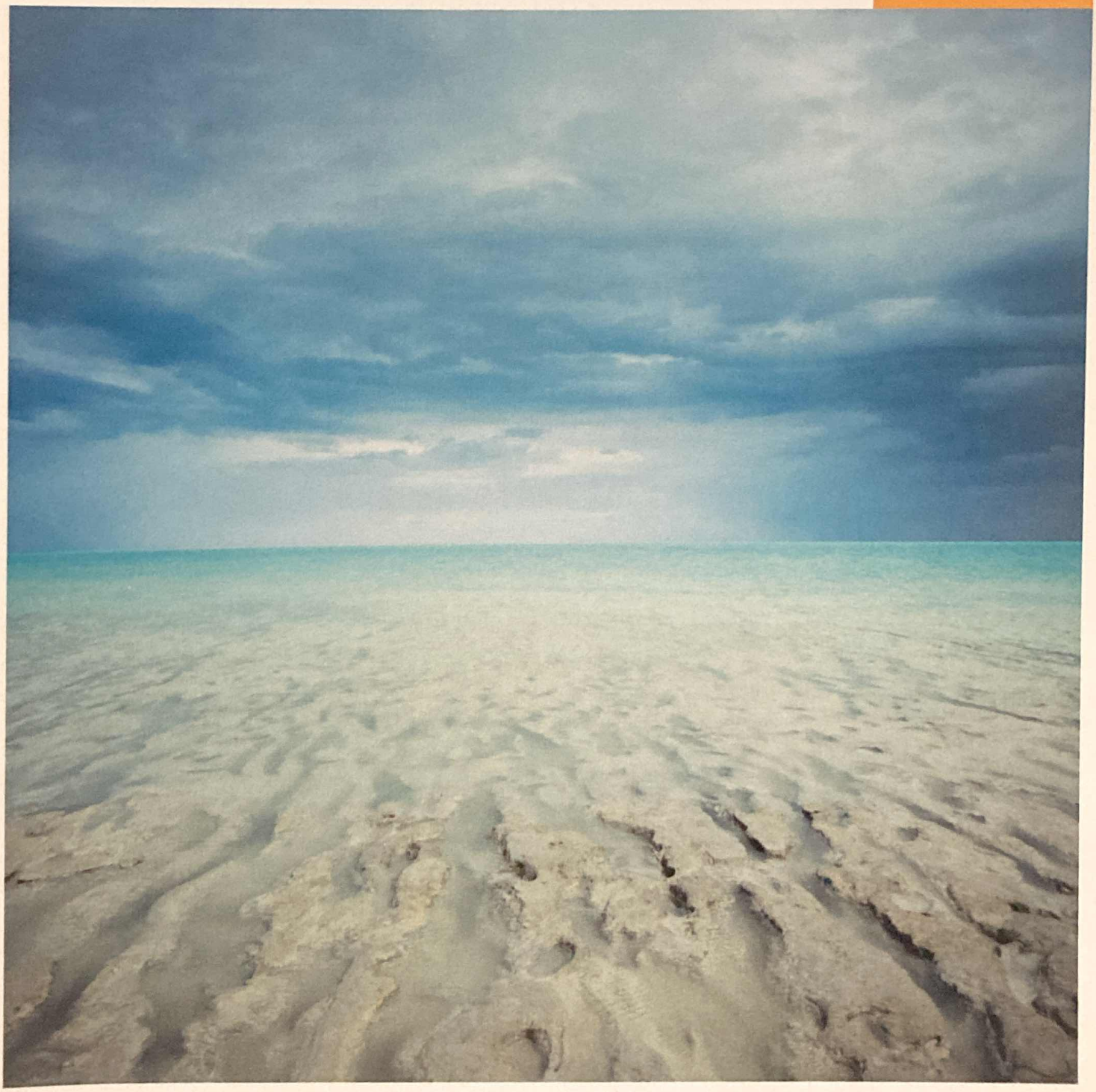
NATURAL ERROR

The turquoise of the Aral Sea caught us by surprise. On our journey across Uzbekistan, the land and its color had been ebbing away to a sandy ochre for weeks. The luminous blue was a shock but matched the uncanny character that pervaded the landscape. As we drove across the dried up seabed of what was once the world's fourth largest inland body of water, we were shaken by storms that rose and fell with disconcerting speed. The UN lists the desiccation of the Aral Sea as one of the most catastrophic of environmental occurrences on record, which, in two years time, will leave only a vast arid salt plain and irreversible climatic change.

In this parched region access to water has always meant access to life. The control of wwwater shaped the early patterns of settlement along the Silk Road. The drying of the Sea can be traced back to changes made to the water system of the entire region by Soviet planners when they took control. With the stroke of a pen, Soviet planners set into motion vast efforts to turn deserts into lush agriculture, reverse the flows of rivers, displace large populations, in short "correct nature's errors." An elaborate system of dams were created to irrigate newly established cotton fields and supply the factories of Moscow. The downstream traditional cities of the Silk Road, such as Bukhara and Samarkand, had their communal pools filled in and replaced with modern conventional piping. The diversion of water had profound social consequences: it broke up traditional uses of the pools as places of gossip, trade, and ritual ablutions, not to mention as places of resistance to Soviet rule.

The scale of Soviet intervention was predicated on their ability to abstract this territory into a simple inscription on a map. It was not just an ideological project of socialism but a project of modernity. Infrastructure, like mapping, is often understood as a neutral act, but the larger the scale of territory, the larger the degree of error.

MORGAN LEWIS
TYLER PUTNAM



MORGAN LEWIS
TYLER PUTNAM

We started our journey in Moscow to study the documents of the Soviet planners. We then traced the Amu Darya river to the Aral Sea through ancient cities of the Silk Road. Traveling through these tightly wound cities with their architectural treasures, we were struck by how dramatic the sudden contraction and escalation of scale was from the street to the steppe. Our perception registered the contrast, while our abstract tools of understanding, such as maps, presented a disconcertingly smooth seamlessness. We attempted to capture the phenomenal differences of the city and the landscape, but realized that the collapse of scale implicit in the lens of a camera failed in a way that was exactly opposite to the failure of the map.

Our exhibition proposes a dialogue between the photograph and the map, these media of projection. By supplementing topographical information with color and texture, by manipulating scales between human and non-human, and by acknowledging the unknown, we hope to challenge the conventions of how territory is understood. Most of all, we hope to foreground critical environmental changes. We contest that by acknowledging the peripheral we place the important in focus.

BOAT | RIVER | AN INDEFINITE SPACE

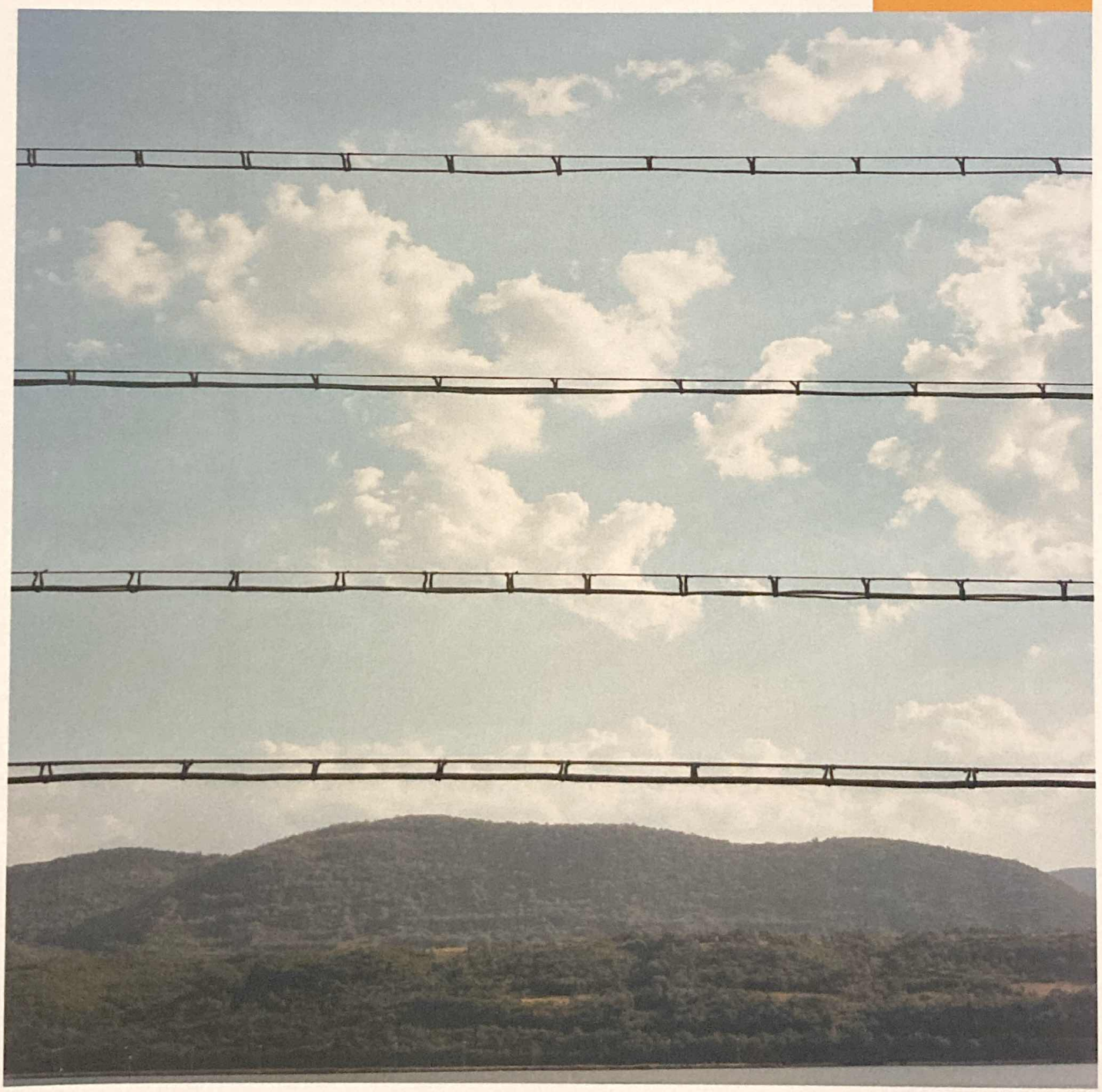
A river is not a line on a map, drawn arbitrarily by some remote cartographer. It is not a barrier designed to keep us here, and them there, nor is it a highway connecting you to me. All knowledge of it and the space around it is indefinite. A river is a collection of interpretations of the past and present, each with its own certainty and conviction.

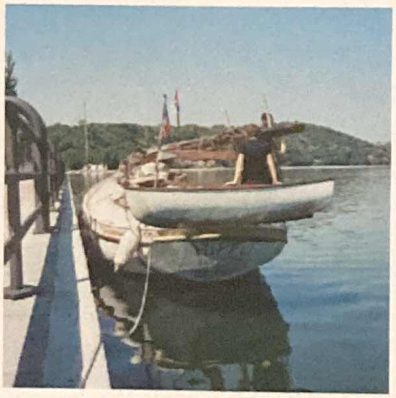
In the summer of 2013 I continued a voyage my late father began more than a decade ago. I captained his homebuilt schooner, Hippo, down the Danube to the Black Sea with an international crew of artists. My intention was to integrate this complex part of my personal history with my current art-making process. For an artist, this boat is a unique instrument for examining both the external and the internal. On the surface she provides access to the world she navigates, but within she distinctly carries the world from which she comes. Hippo's story has run parallel to mine since childhood, and she exists for me as both a home and a myth of home. In spite of all of her familiarity, she still hovers somewhere between the concreteness of history and the mutability of memory.

The Danube springs from a humble and uncertain web of streams in the center of Europe and flows through ten countries to the Black Sea. Its course touches many different cultures, languages, and histories. We tend to attach certainties to those things, using boundaries as if they were packaging to make each thing contained, and titles as if they were handles to make them portable and usable. When you see the river from Hippo's deck, these certainties disintegrate into an endless array of qualifying footnotes and exceptions. The Danube, once the frontier of European "civilization" and now one of the European Union's valuable Pan-European Trade Corridors, is a complex and layered entity that simultaneously cuts through the region and ties it together with its histories and memories.

Crew:
Shane Kennedy
Joe Riley
Pablo Diaz
Anna Wahlgren
Toni Essel

CLEMENS POOLE



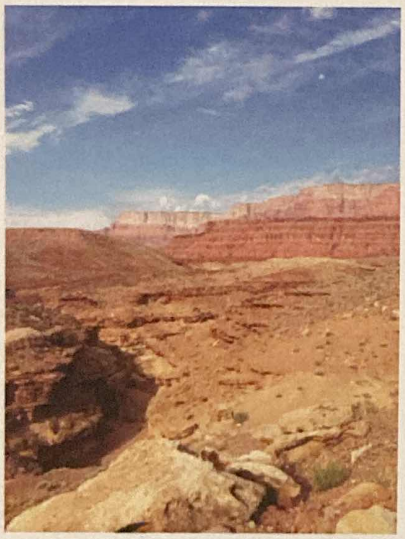


Both the river and the boat only hesitantly clothe themselves with our expectations. This project is about contending with an innate desire to delineate the world, using our past to draw lines both connecting and dividing. The objects and images we exhibit here are from a landscape too broad for us to fully understand. We offer them as an array of memory nodes or triggers. In some cases they stand in for other objects; in other cases they stand in for less definite things that make up this voyage: belief, vision, hunger, pain, responsibility, joy. Each object promises certainty, but only during momentary engagement. This certainty is intended to fade with each new encounter. We live in flux, and this installation seeks to occupy a space of flux, just as a river does—or a boat.

ANNA LISA

TERRESTRIAL AND CELESTIAL: OBSERVING SPACE

"photograph," etymology of: from photos (φοτοσ), ***light, and graphos*** (γραοσ), ***writing, delineation***



To observe the night sky is to participate in the overwhelming phenomena of infinite space. We began our project captivated by the experience of observation, by the scalelessness of our universe, and by the common allure of astronomy. We visited craters, canyons, volcanoes and observatories in the naked landscapes of the American Southwest, looking for a parallel between these landscapes and the depth of our cosmos.

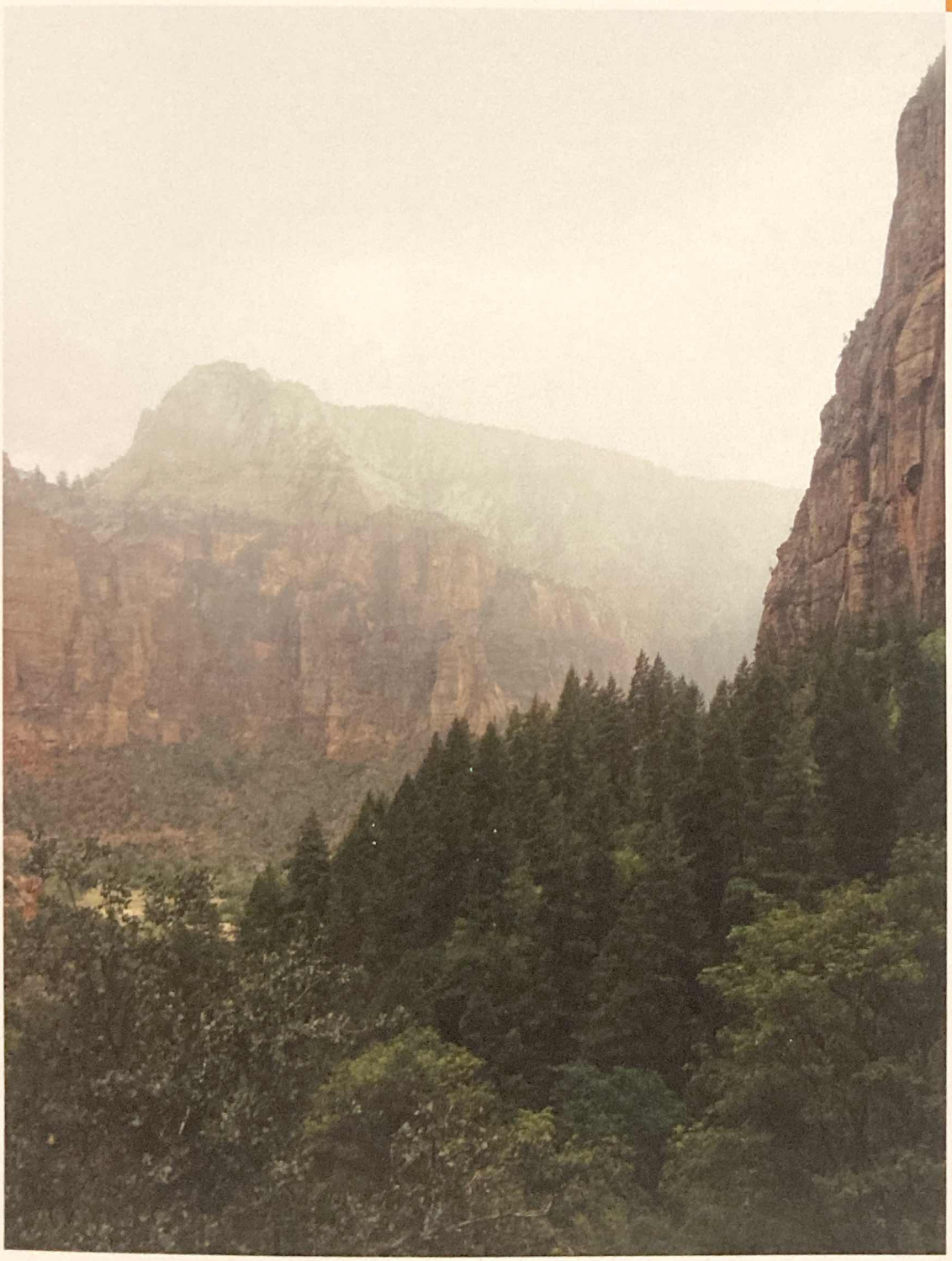
The night sky records memory; it is the projected light from an extinct celestial landscape. The delay with which starlight arrives to paint our night sky creates an atmospheric imprint of history. This compressed image shows deceased planets, stars, and galaxies. We viewed the night sky as a photographic transcription, a flattening of deep space and time.

How does this collapse of dimensions inspire the mysticism of outer space? How do we understand this mnemonic collage that is our night sky? What is the significance of this ancestral connection between stargazing and representation?

We traveled by car, up and down Arizona, into southern Utah, through National Parks, across undeveloped terrain, and to isolated institutions. We chose sites where the landscape holds onto a reciprocity with the night sky as few places left on Earth do—where artificial light and pollution cancel out the vision of the universe. We found ourselves compelled by the sheer distance of sky and horizon, driving thousands of miles across this varied landscape. Days and nights were spent outdoors, our perception framed by these lateral bounds. We found these bounds pay tribute to this place, where bold limits define ineffable expanse.

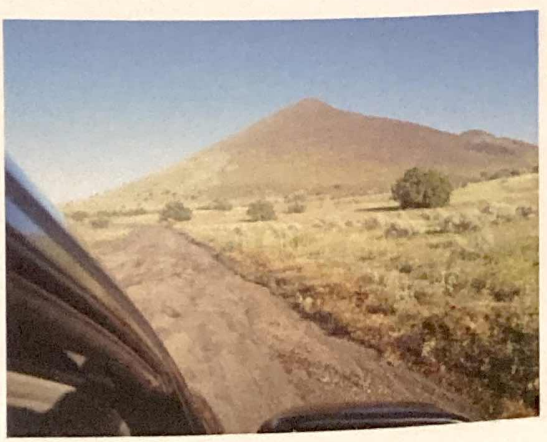
We experienced these sites as spaces suspended between the field of space and our evolving landscape. Enabled by the clarity of the night sky, these places retain a closeness with history innate to astronomy. The territories hold a strange relationship to time, where marked traces of the past become the forms of the physical environment. Meteor craters, volcanic fields, canyons and rivers are formed from instances in history,

ARIANA REVILLA
MATTHEW MAIELLO

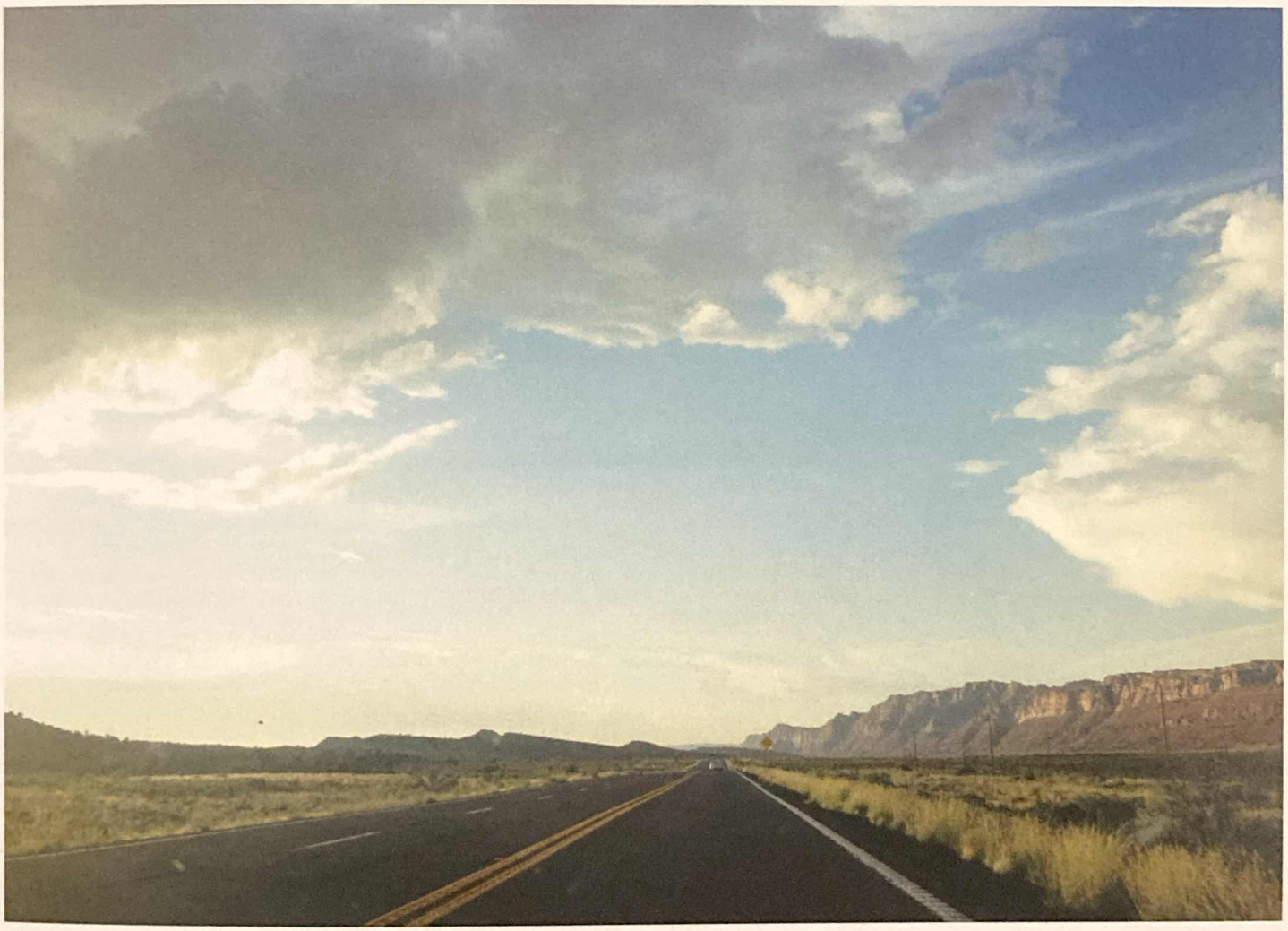


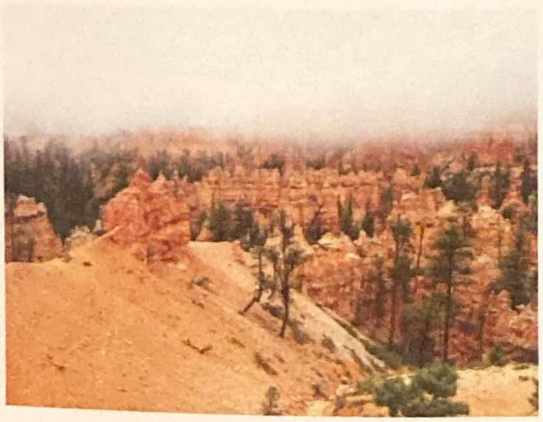
preserved in a photographic place. The program of these places is of observation of time and trace.

Our project revisits the etymology of the word "photograph," its origins in the Greek- photos and graphos- as writing with light. We approached these places with intent to question the nature of observation, time, and the flattened transcription of memory. We traveled to sites where this phenomena is most apparent, sites immersed in photographic index and astronomic perception. The nature of these sites presents a profound connection with the night sky, enabling an experience that confronts the mnemonic complexity of both landscape and outer space.



ARIANA REVILLA
MATTHEW MAIELLO





DIRTY WATER: DESIGNING FOR THE LIFE OF A VILLAGE

Last winter, while on an environmental engineering research project, I traveled to Cambodia. There I discovered the painful experience of people needing clean water, not just for drinking but also to sustain fish ponds for their sustenance. I was moved to create a solution. This project reflects my efforts at designing a pump and filtration system to be used locally by people with minimal technical knowledge.

The island of Koh Rong Samloem, Cambodia, is surrounded by the clear turquoise water and the undisturbed sandy shores of the Gulf of Thailand. The island supports a small fishing village filled with barefoot islanders who pass their days selling mangoes, protecting carefree wild dogs, and building schoolhouses for the children. Simply-constructed bamboo and wood huts line the village; elements of a community exist. But the impact of over-fishing on those turquoise waters, the exhaustion of the fertility of the soil, and the pollution from human activity—all stress the village environment to the point that the villagers have to abandon it.

During my visit to this remote island, I could not help but be drawn to its beauty and calmness. Yet, as a civil engineer, I saw problems reflected in every shoreline, hut, and water system. I knew, on a personal and educational level, that this was a community I wanted to help.

The villagers also have a bit of unusual practice. About five hundred islanders live along the shores for roughly fifty years, and after depleting the island's natural resources through overfishing for food, sport, and trade, the whole village exports

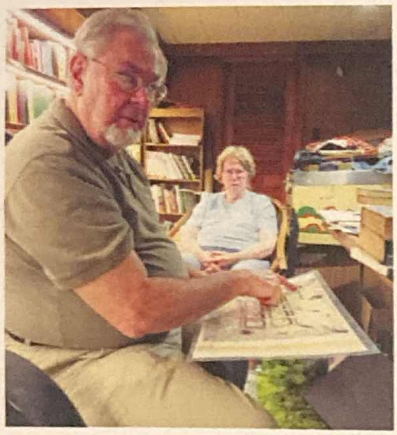
CATHERINE SANSO

itself to a neighboring island. In the last few years, many have expressed the desire to adopt more sustainable techniques to prolong the number of years one island can support them and their families and to strengthen their sense of a collective homeland.

My Menschel Fellowship provided me with an opportunity to design and build a pump and filtration system that is simple, sustainable, and easily constructible. This is important because a pump and filtration device will allow the villagers to purify the polluted pond waters located throughout the island to establish small-scale marine ecosystems for fishing. By relying on the ponds for most meals, the villagers are less likely to trawl in the Gulf of Thailand. The pump must be simple and repairable. Engineers have learned that without the ability to repair a system locally, no matter how well-designed, these systems are soon themselves abandoned. The infrastructure of repair itself has to be built and preserved.

After sketching multiple possibilities, over many months of frustration, I resolved on three feasible designs. I was assisted in these studies by a Cooper Union lab assistant, Brandon Balili, to whom I owe great thanks. These three feasibility designs were tested using similar materials and modeled using AutoCAD Civil 3D and Hydroflow analyses. This exhibition highlights my discovery of the Cambodian islanders' dilemmas, my research efforts, and my proposed solution which I dedicate to all people needing clean water.

TECUMSEH AND THE PROPHET'S TRAIL: RECONNECTING ROUTES



Susan Gray and Dr. Cox retell their archaeological experiences uncovering the actual floor logs of the fortified city of Greenville.

1809

Thousands of paddle strokes propel the Shawnee Indians from their villages in the Ohio River Valley to the windswept prairies envisioned by the leaders Tecumseh and his brother the Prophet as their new home.

1837

Irish immigrants shovel furiously, carving the Wabash and Erie Canal, a connection from the Great Lakes to the Ohio River. River towns bustled with new activity.

1892

Flames fly one hundred and fifty feet in the air from three hundred derricks, every night. New towns spring up with cramped residences, hotels, saloons, and glass and tin plate factories. Joyous shouts hang win the air filled with dark and smoky burning natural gas.

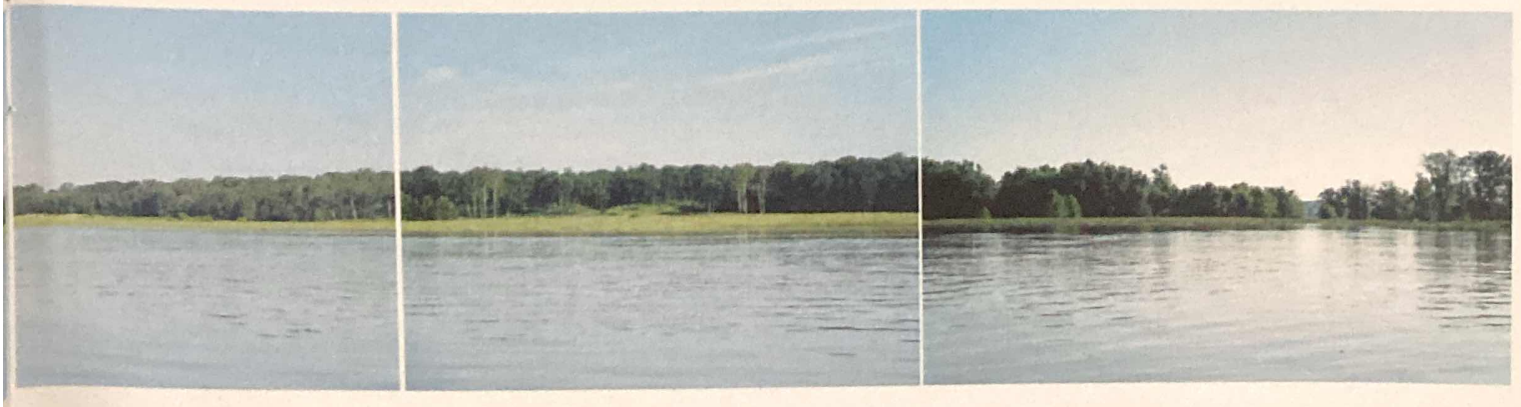
1905

Oil derricks pump rhythmically; their wooden structures are transformed into steel machines. At night, the town's most established citizens make merry in the warmth from steam radiators and the glow of electric light bulbs.

KARL SCHULZ
MARK RESSL

Becky Kibbie listens to her father Doyt telling us that the Wheeling Pike, a "lame excuse for a national highway," twists and bends with the river, and used to be known as the OIT "Old Indian Trail."

Turning a bend in the river, we saw open prairie for the first time. Almost certainly with the same sense of awe as we felt, The Prophet chose this complete conversion in landscape to found his pan-Indian village.



Karl treads the abandoned track of Panhandle Route Railroad which used to carry stone away from the abandoned quarry on the bank of the river. The operating quarry is moved to the other side of the river so trucks on the highway can carry out the stone.

Elder women from multiple tribes congratulate each other after a competition dance in Kettle and Stony Point pow wow.

1935

Whistles and bells ring through the night. Railroad bridges criss-cross the rivers, pushing industries and city centers further away from the water. The river industries crumple beside the new speedy national commerce of the railroads.

1955

Machines roll out sheet metal brought in by rail. Steel factory towns build up and shrink away before town squares even form. Jobs hardly had, families hardly started, and suddenly factories close; people move out and ghost towns remain.

1990

Attempting to keep up with the increasing speed of truck transportation, cities stretch themselves out to the highways. The trucks roar by these new strip malls, leaving the downtowns in neglected states.

KARL SCHULZ
MARK RESSL

The Monday-Wednesday-Friday Crew hammers down rivets on iron girders, pieces of the Gray Bridge, which was disassembled, reworked, and which is now being reconstructed in the city of Delphi.

Tecumseh and his brother The Prophet were Native American visionaries who led their followers away from threats of the encroaching United States Army to a new homeland in Indiana. This exhibition is our reaction to our varied experiences walking and canoeing their path. We traveled their same route, though it has been much transformed and reworked by over two hundred years of settlement, agriculture, strip-mining, and, most recently, suburban sprawl. Today, the landscape is rife with abandoned structures remnant from these past layers of history. For our Menschel Project, we sought out these isolated fragments of history in the lives and work of people who themselves have engaged this landscape of unmapped routes.

We started our project believing that community architects were the primary persons responsible for maintaining a rural society's history and culture. We ended up working with some thirty local historians, researchers, and naturalists. The variety and success of their approaches to repurposing past fragments for redesigning the present landscape showed us what invested relationships to the community can deliver as ideas that we can support as architects. We were fascinated to observe how these people dusted off some item, bringing new-found life and relevance to what most others ignore. Sadly, these people often work in relative isolation.

We were moved to consider how Tecumseh and the Prophet's vision sought to bring disparate Indian tribes into a pan-Indian government; how, later, canal water then the railroad industries all brought people from different places who thrived together. Our exhibition presents our proposal for a "reconnecting" trail that would recognize the independent efforts of communities along this route to rejuvenate themselves.

THROUGH THE PRISM OF THE DOMBRA

This project offers a point of view on the struggle to redefine national and ethnic identities within Kazakhstan through the act of playing the dombra. There is an old saying in Kazakh:

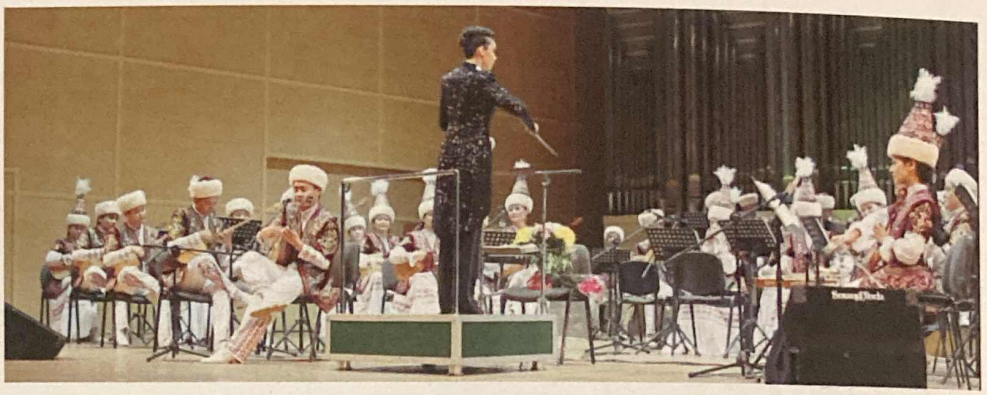
"Нағыз қазақ – қазақ емес, нағыз қазақ – домбыра"

My Menschel project took me home to Kazakhstan to discover the music and society of the dombra. Kazakhstan is a huge country. For instance, it's a 44 hour train ride from Almaty to Astana and back. The whole time the landscape viewed from the train's window stays the same: steppe, steppe, and more steppe. At the small stations, older ladies with big bags and bowls of food sell nan, pilaf, and qurt (dried up fermented milk rolled into small balls). Some of them are not friendly when they spot me. They ask: "You are Kazakh? So why don't you speak Kazakh?" This usually leads me to explaining in Russian that I am half Korean and half Tartar. I constantly get funny looks because of my hair and my tattoos, and I always feel the tension of people around me wondering if I am a boy or girl.

After the collapse of the Soviet Union in 1991, the new country's leaders started trying to make the country more Kazakh and less Soviet/Russian. They attempted to go back to the pre-Russian era, forcing the Kazakh language and culture onto all ethnicities living in the country. The process was happening when I was growing up, which made me realize the importance of being defined as part of a larger group of people sharing a similar past. It was also something of a painful lesson.

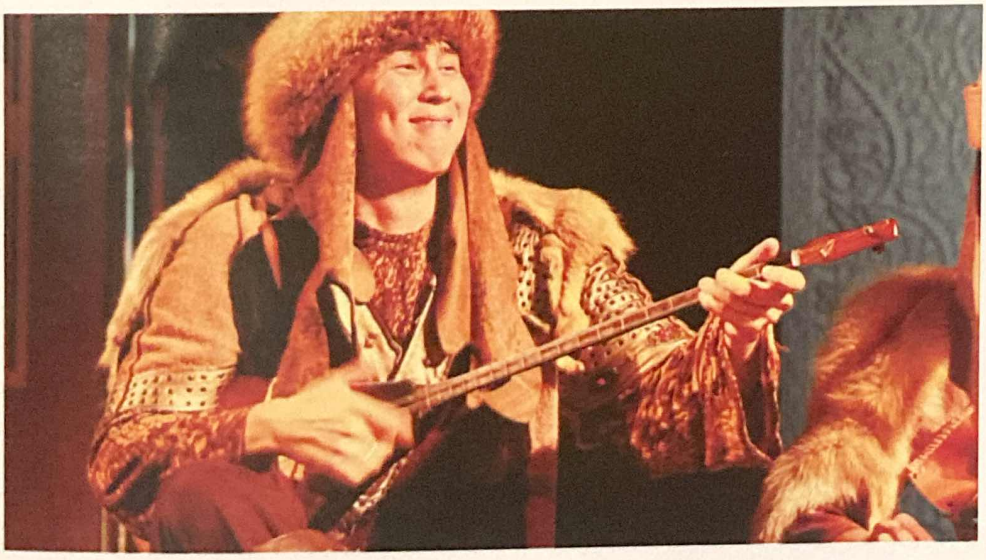
The dombra is a two-string lute that is specific to Kazakhs. I found myself studying it with intense interest, even though the teachers only spoke Kazakh and one could hear dombra concerts only on Kazakh networks. Actually, the community of dombra players is small and often secluded.

DIANA YUN



In my travels this summer, as I interviewed and filmed, I was pleased to discover that composers are using the dombra in ways that suggest that the instrument is destined to become part of the growing phenomena of world music. In fact, all of the people I came in contact with were very excited to have the dombra culture be the center of attention of this project and to know it would be shared with people outside their country.

The old saying—that one does not have to be ethnically Kazakh to love the dombra—now resonates with me with newer, greater possibilities. As I learned the instrument and studied its music, the joy of the music itself brought up memories of home. Through the prism of dombra playing, I have been able to finally connect with the culture I was estranged from for so long.



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